What is claimed is:

1. A method for assaying a sample for the presence of a nucleic acid binding protein, which comprises:

a) mixing at least one predetermined single- or double-stranded nucleic acid containing at least one label and containing a protein binding nucleotide sequence with a sample which may contain a nucleic acid binding protein,

b) incubating the mixture of step a) under conditions which allow the binding of said nucleic acid binding protein to said at least one predetermined single- or double-stranded nucleic acid to form a complex,

c) adding a nucleic acid-cleaving enzyme or reagent to the mixture of step b),

d) incubating the mixture of step c) under conditions which allow the cleavage of said at least one predetermined single- or double-stranded nucleic acid which has not formed a complex, and

e) measuring the amount of said complex to measure said nucleic acid binding protein.

2. A method for assaying a sample for the presence an inhibitor of a predetermined nucleic acid binding protein, which comprises:

a) mixing at least one predetermined single- or double-stranded nucleic acid containing at least one label and containing a protein binding nucleotide sequence and a predetermined nucleic acid binding protein with a sample which may contain an inhibitor of the binding of said predetermined nucleic acid binding protein with said at least one predetermined single- or double-stranded nucleic acid,

b) incubating the mixture of step a) under conditions which allow the binding of said nucleic acid binding protein to said at least one predetermined single- or double-stranded nucleic acid to form a complex,

c) adding a nucleic acid-cleaving enzyme or reagent to the mixture of step b),

d) incubating the mixture of step c) under conditions which allow the cleavage of said at least one predetermined single- or double-stranded nucleic acid which has not formed a complex, and

e) measuring the amount of said complex to measure said inhibitor.

3. A method as in claim 1 or 2 wherein said at least one predetermined single- or double-stranded nucleic acid is 4 to 1000 nucleotides in length.

4. A method as in claim 1 wherein the said at least one predetermined single- or double-stranded nucleic acid contains modified nucleotides that are resistant to nuclease cleavage.

5. A method as in claim 4 wherein said at least one predetermined single- or double-stranded nucleic acid contains from 1 to 999 modified nucleotides.

6. A method as in claim 5 wherein said modified nucleotides are not contained within said protein binding nucleotide sequence.

7. A method as in claim 1 wherein said label is an electrochemiluminescent label.

8. A method as in claim 1 or 2 wherein said label is selected from the group consisting of a radioactive moiety, fluorescent moiety, enzyme, chemiluminescent moiety, electrochemiluminescent moiety, bioluminescent moiety, optically observable particle.

9. A method as in claim 1 wherein said at least one predetermined single- or double-stranded nucleic acid sequence has at least one capture moiety attached thereto.

10. A method as in claim 9 wherein said label is RuBpy and said capture moiety is selected from the group consisting of biotin, avidin, streptavidin, antibody, antigen,

lectin, receptor, ligand, hormone, nucleic acid sequence, mimitope, or nucleic acid base pairing polymer.

11. A method as in claim 7 wherein said electrochemiluminescent label is RuBpy.

12. A method as in claim 1 or 2 wherein prior to step a), at least one predetermined single- or double-stranded nucleic acid sequence is contacted with a solid phase.

13. A method as in claim 1 or 2 wherein after step d), the mixture is contacted with a solid phase.

14. A method as in claim 1 or 2 wherein said at least one predetermined single- or double-stranded nucleic acid sequence is RNA.

15. A method for assaying a sample for an enzyme activity that cleaves nucleic acid which comprises:

a) mixing at least one predetermined single- or double-stranded nucleic acid containing at least one electrochemiluminescent label with a sample which may contain a nucleic acid-cleaving enzyme,
b) incubating the mixture of step (a) under conditions which allow cleavage of said nucleic acid, and
c) measuring the amount of cleaved nucleic acid to measure said enzyme activity.

16. A method for measuring an inhibitor of an enzyme activity that cleaves nucleic acid in a sample, which comprises:

a) mixing at least one predetermined single- or double-stranded nucleic acid containing at least one electrochemiluminescent label, a predetermined enzyme with a sample which may contain an inhibitor of a nucleic acid-cleaving enzyme,

b) incubating the mixture of step (a) under conditions which allow cleavage of said nucleic acid, and

c) measuring the amount of cleaved nucleic acid to measure said inhibitor of said nucleic acid cleaving enzyme.

17. A method as in claim 15 wherein said at least one predetermined single- or double-stranded nucleic acid has at least one capture moiety attached thereto.

18. A method as in claim 17 wherein said label is RuBpy and said capture moiety is selected from the group consisting of biotin, avidin, streptavidin, antibody, antigen, lectin, receptor, ligand, hormone, nucleic acid sequence, mimitope, or nucleic acid base pairing polymer.

19. A method for assaying a sample for the presence of an enzyme activity that cleaves peptides or proteins, which comprises:

a) mixing at least one predetermined peptide or protein containing at least one electrochemiluminescent label with a sample which may contain a peptide or protein-cleaving enzyme,

b) incubating the mixture of step (a) under conditions which allow cleavage of said peptide or protein, and

c) measuring the amount of cleaved peptide or protein to measure said enzyme activity.

20. A method for assaying a sample for the presence of an inhibitor of an enzyme activity that cleaves peptides or proteins, which comprises:

a) mixing at least one predetermined peptide or protein containing at least one electrochemiluminescent label, a predetermined peptide or protein-cleaving enzyme, with a sample which may contain an inhibitor,

b) incubating the mixture of step (a) under conditions which allow cleavage of said peptide or protein, and

d) measuring the amount of cleaved peptide or protein to measure said inhibitor

21. A method as in claim 19 wherein said at least one predetermined peptide or protein contains at least one capture moiety.

22. A method as in claim 21 wherein said label is RuBpy and said capture moiety is selected from the group consisting of biotin, avidin, streptavidin, antibody, antigen, lectin, receptor, ligand, hormone, nucleic acid sequence, mimitope, or nucleic acid base pairing polymer.

23. A method as in claim 19 or 20 wherein said at least one predetermined peptide or protein is contacted with a solid phase.

24. A method for assaying a sample for the presence of an enzyme activity that joins nucleic acid, which comprises:

a) mixing at least one predetermined single- or double-stranded nucleic acid containing at least one electrochemiluminescent label with a sample which may contain a nucleic acid-joining enzyme,

b) incubating the mixture of step (a) under conditions which allow joining of said nucleic acid, and

c) measuring the amount of joined nucleic acid to measure said enzyme activity.

25. A method for assaying a sample for the presence of an inhibitor of an enzyme activity that joins nucleic acid, which comprises:

a) mixing at least one predetermined single- or double-stranded nucleic acid containing at least one electrochemiluminescent label containing a predetermined nucleic acid-joining enzyme with a sample which may contain an inhibitor of said predetermined nucleic acid-joining enzyme,

b) incubating the mixture of step (a) under conditions which allow joining of said nucleic acid, and

d) measuring the amount of joined nucleic acid to measure said inhibitor.

26. A method as in claim 24 wherein said at least one predetermined single- or double-stranded nucleic acid has at least one capture moiety attached thereto.

27. A method as in claim 26 wherein said label is Ru(byp) and said capture moiety is selected from the group consisting of biotin, avidin, streptavidin, antibody, antigen, lectin, receptor, ligand, hormone, nucleic acid sequence, mimitope, or nucleic acid base pairing polymer.

28. A method as in claim 15 or 24 wherein prior to step a), said at least predetermined one single- or double-stranded nucleic acid is contacted with a solid phase.

29. A method as in claim 15, 19, or 24 wherein after step b), the mixture is contacted with a solid phase.

30 A method for assaying for the presence of a specific nucleic acid sequence, which comprises

a) mixing at least one single-stranded nucleic acid sequence which contains a complimentary sequence of said specific nucleic acid sequence, having at least one electrochemiluminescent label, to a sample which may contain said specific nucleic acid sequence,
b) incubating the mixture of step a) under conditions which allow the binding of said at least one nucleic acid sequence to said specific nucleic acid sequence to form a duplex,
c) adding a nucleic acid-cleaving enzyme or reagent to the mixture of step b),
d) incubating the mixture of step c) under conditions which allow the cleavage of said at least one single-stranded nucleic acid sequence which has not formed a duplex, and
e) measuring the amount of said duplex to measure said specific nucleic acid sequence.

31. A method as in claim 30 wherein said at least one single-stranded nucleic acid sequence contains at has at least one capture moiety attached thereto.

32. A method as in claim 31 wherein said label is Ru(byp) and said capture moiety is selected from the group consisting of biotin, avidin, streptavidin, antibody, antigen, lectin, receptor, ligand, hormone, nucleic acid sequence, mimitope, or nucleic acid base pairing polymer.

33. A method as in claim 30 wherein said at least one single-stranded nucleic acid sequence is 18 to 1000 nucleotides in length.

34. A method as in claim 15, 19, 24, or 30 wherein said electrochemiluminescent label is Ru(byp).

35. A method as in claim 30 wherein prior to step a), said at least one single- stranded nucleic acid sequence is contacted with a solid phase.

36. A method as in claim 30 wherein after step d), the mixture is contacted with a solid phase.

37. A kit comprising in one or more containers:

a) a nucleic acid having a predetermined protein binding region wherein said nucleic acid has a detectable moiety attached thereto, and

b) a nucleic acid-cleaving enzyme or nucleic acid-cleaving reagent.

38. A kit as in claim 37 further comprising a solid phase.

39. A kit as in claim 37 wherein said nucleic acid has a capture moiety attached thereto.

40. A kit as in claim 37 wherein said detectable moiety is an ECL label.

41. A kit as in claim 40 wherein said ECL label is Ru(byp).

42. A nucleic acid comprising a predetermined protein binding region wherein said nucleic acid has a detectable moiety attached thereto.

43. A nucleic acid as in claim 42 wherein at least one nucleic acid linkage is selected from the group consisting of peptide nucleic acid linkages, phosphorothioate linkages, and methyl phosphonate linkages.

44. A nucleic acid as in claim 42 wherein said nucleic acid has a capture moiety attached thereto.